

**Addendum-1**  
**BOQ FOR PROVIDING 11kV EXTERNAL,INTERNAL POWER DISTRIBUTION AND STREET LIGHTING SYSTEM IN DTA-II (PHASE-I) AT MAHINDRA WORLD CITY, JAIPUR**

S.No.	Description	Unit	Qty.	Basic Material Rate excluding Taxes	Basic Labour Rate (inclusive of Labour, cess, legal, statutory charges and all other charges except Taxes)	Total Rate	Amount	Remarks (Taxes on Material to be written Item wise)
<b>A</b>	<b>11 kV External Power Distribution</b>							
1	Laying of under ground cable one meter below ground level covered with sand( 100mm below+200mm above) and <b>Bricks of Standard Size as per JVVNL Specification (for covering each no of cable)</b> suitably as per requirement for mechanical protection to the cable, including necessary connections, digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE(E) 11KV insulated ISI marked and of approved make.Aluminium conductor armoured cables suitable for working voltage up to 11000 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(cable free supply)							
a	11 kV 3C x 300 Sq.mm XLPE, Al, UG cable	Mtr	1706					
2	HV cable end termination ( <b>make-Raychem,3m,Denson</b> )							
a	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit contents including earth continuity connection along with 3 nos. crimping type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	4					
3	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit contents including earth continuity connection along with 3 nos. crimping type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	5					
4	Supplying and making straight through joint with heat shrink type including lugs and other jointing materials, for following size of 3 core x 300 Sq.mm , XLPE aluminum conductor cable of 11KV (E) grade as required	Each	5					
5	<b>Supplying and fixing Pre-cast RCC cable route marker as per approved drawing as per direction of Engineer-in-Charge.</b>	Each	36					
6	<b>Laying of under ground cable one meter below ground level through trenches ducting for following sizes XLPE(E) 11KV insulated ISI marked and of approved make.Aluminium conductor armoured cables suitable for working voltage up to 11000 volts up to size of 300 sq mm</b>	Rmt	500					
	<b>Total-A-11 kV External Power Distribution</b>							
<b>B</b>	<b>Internal Power Distribution Network</b>							
1	11KV Ring Main Unit Outdoor type - 6 way							
	Erection,installation, testing and commissioning of outdoor type extendable type 11kV 630 amps 21 kA, 3 sec, RMU with 2 nos. incoming load break switch with earth switch and 4 nos. 11kV 630 amps VCB in SF6 enclosure as out going with earth switch, 630 Amps copper busbar including all accessories, civil foundation as per approved drawings, fasteners, included etc. complete as required ( RMU free supply)	Set	2					
2	11KV Ring Main Unit Outdoor type - 3 way							
	Erection,installation, testing and commissioning of outdoor type extendable type 11kV 630 amps 21 kA, 3 sec, RMU with two nos. incoming load break switch with earth switch and 11kV 630 amps VCB in SF 6 enclosure - one no. as out going with earth switch, 630 Amps copper busbar including all accessories civil foundation as per approved drawings, fasteners etc. complete as required.( RMU free supply)	Set	8					
3	Erection, installation, testing and commissioning of Transformer 160 KVA, LT panel & 2 way RMU outdoor type including civil foundation as per approved drawings as required with following:(Transformer,LT Panel,RMU Free Supply)	Set	1					

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S.No.	Description	Unit	Qty.	Basic Material Rate exluding Taxes	Basic Labour Rate (inclusive of Labour, cess, legal, statutory charges and all other charges except Taxes)	Total Rate	Amount	Remarks (Taxes on Material to be written Item wise)
4	Erection, testing and commissioning of 11 kV 400 amps, 4way feeder outdoor pillar box complying to JVVNL specification including civil foundation as per approved drawings as required all inclusive.(11kV Feeder Box Free Supply)	Set	14					
5	Laying of under ground cable one meter below ground level covered with sand and Bricks of Standard Size as per JVVNL Specification (for covering 1no. cable) or 450mm(W)X100mm(T)(for covering more than 1no. cables suitably as per requirement for mechanical protection to the cable, including necessary connections, digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE(E) 11KV insulated ISI marked and of approved make.Aluminium conductor armoured cables suitable for working voltage up to 11000 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(Cable free supply)							
a	11kV 3C x 300 Sq.mm XLPE, Al, UG cable	Mtr	9384					
b	11kV 3C x 185 Sq.mm XLPE, Al, UG cable	Mtr	150					
6	HV cable end termination ( <b>make-Raychem,3m,Denson</b> )							
a	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	10					
b	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	2					
c	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	64					
d	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	2					
e	Supply ,Erection and commissioning of HVS type Three Core H.T Cable straight through joints along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	38					
f	Supply ,Erection and commissioning of HVS type Three Core H.T Cable straight through joints along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminum cable complete with all kit content s including earth continuity connection along with 3 nos. crimpling type aluminum lugs / thimbles of suitable capacity including making joints etc.	Set	1					
7	Cable route marker							
a	<b>Supplying and fixing Pre-cast RCC cable route marker as per tender drawing or synonyms as approved by Electrical Engineer-in-Charge.</b>	Each	191					
8	Earthing							
a	Chemical Earthing with G.I. pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	54					

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S.No.	Description	Unit	Qty.	Basic Material Rate exluding Taxes	Basic Labour Rate (inclusive of Labour, cess, legal, statutory charges and all other charges except Taxes)	Total Rate	Amount	Remarks (Taxes on Material to be written Item wise)
b	Chemical Earthing with Copper pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	2					
c	Supplying and laying 50 mm X 5 mm copper strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Mtr	50					
d	Supplying and laying 50 mm X 5 mm G.I strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50 mm)	Mtr	500					
12	Providing and erecting 1.5 meter high wire fencing with seven rows of barbed wire supported on M.S.Angles (50 mm x 50 mm x 6mm) at 2.5 Meters, center to center including excavating pits for foundation, fixing post in cement concrete 1:4:8 of size 45 x 45 x 45 cm . fastening the wire and painting the M.S.Angles with one coat of red lead primer and two coats of painting etc. complete.	Rmt.	50					
13	Providing and fixing mild steel grill gate with angle iron frame 65 mm x 65 mm x 10 mm with iron bars at 150mm.C/C and diagonal flats as per the detailed drawing including hinges, pivot blocks locking arrangement, welding riveting and oil painting of three coats of approved shade. Weight of gate 35 Kg/Sqmt.	Sqmt.	4					
13	Civil Foundation work and Barricading Distribution for Feeder Pillars and Packaged Sub-Stations							
a)	Earth work in excavation in foundation trenches etc. in all kinds of soil not exceeding 2, depth including dressing of bottom and side of trenches stacking the excavated soil, clear from the edge of excavation and subsequent filling around masonry in 15cm layers with compaction including disposal of all surplus soil, as directed within a lead of 30M.	Per Cum.	100					
b)	Cement concrete 1:4:8 with brick ballast 20mm nominal size in foundation & plinth.	cum.	50					
c)	First class brick work laid in cement sand mortar 1:6 in 1st story up to 4M above plinth level.	Cum.	100					
d)	Cement concrete 1:3:6 with stone agg. 20mm nominal size in foundation & plinth	Cum.	50					
e)	Cement concrete 1:2:4 with stone aggregate 20mm nominal size in foundation & plinth .	Cum.	20					
f)	12mm thick cement plaster 1:4	Sqm.	200					
g)	Rough iron and mild steel (using flats square bars tees and channels ladders grills gratings framed window guards iron door open able or fixed staircase or parapet or any other type of railings gates and tree guards etc. including cost of screws and welding rods or bolts and nuts complete fixed in position <b>as per approved drawing.</b>	Ton	2					
h)	Providing and fixing of <b>GI wire chain link jali ( 1.5 meter width) around the Feeder Panel / Packaged Sub-Station of size up to 8'x4' made out of wire mesh including suitable painted L angle ( L angle paid separately in item no g) support at maximum 2 meter distance and corners</b> , fixing in cement 1:2:4 including welding cutting etc. Complete in all respect up to the entire satisfaction of Electrical Engineer-in-charge of work.	RFT	60					
11	Liaison works for statutory approvals including CTL of cables/ transformer etc., transportation, Electrical inspector approval, Electrical scheme approval, sanction letter, supervision, Handover etc.( excluding the statutory payments/fees, which will be paid or reimbursed separately by MWCJ)	Lot	1					
	<b>Total -B-Internal Power Distribution</b>							

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<b>C</b>	<b>Street Lighting</b>							
1	Street light Feeder pillar - 1 & 4							
	Design, Supplying, Installation, testing and commissioning of 415 V street lighting feeder pillar panel compartmentalized, factory made Godrej Almira type suitable for outdoor installation, made up of CRCA sheet steel of thickness not less than 2 mm with a weather proof canopy of top, double door construction, IP 54 protection, anti corrosive chemical resistant paint with, automatic dawn and dusk with astronomical controller for street light outgoing, , complete with Aluminum bus bars, inter-connection with solid/ stranded copper conductor wires/ copper strips, glands neutral links, etc., and mounted with following switch gears, etc., complete as required with detailed specifications: , energy saver for automatic switching ON/OFF as per pre-sets time cycle, digital multifunctional meter with RS485 port and suitable CT etc., including concrete pedestal and associated civil works.	Nos	2					
	Incoming							
	1 Set Three Phase, 4 wire Energy Meter along with 1 No. 125 Amp Four pole MCCB, 25 KA breaking capacity with heavy duty solid neutral link with thermal release having O/L and short circuit protection along with 3 Nos.multifunctional digital Astronomical switches to control the road lighting Luminaires per phase basis with easy programming with PC,automatic ON and OFF time as per the uploaded programming, etc. as per approved make complete as required with detailed specifications.							
	Bus Bar							
	1 set. of four Nos 125 Amps Aluminum Bus Bars of size 25mm x 5 mm shall be insulated by heat shrinkable sleeves & clip on shroud for joints							
	Outgoings							
	32 amp TPN MCCB 16 KA -- 6 nos							
	32 amp TPN contactor 16 KA -- 6 nos							
	63 amp TPN MCCB -- 6 nos							
	Suitable A.P.F.C system compartment with contactors, relays and M.C.B's etc. as required be made as integral part of Feeder Pillar. 20 KVAR 9 stage APFC controller for power factor correction, with 10 KVAR - 1 no. , 5 KVAR -1 nos, 2 KVAR -2 nos, 1 KVAR -1 no, capacitor with capacitor rating contactor, and adequate plate to terminate suitable cable as incomer and suitable cable as outgoing. fixed type power factor capacitor							
1A	Street light Feeder pillar - 2 & 3							
	Design, Supplying, Installation, testing and commissioning of 415 V street lighting feeder pillar panel compartmentalized, factory made Godrej Almira type suitable for outdoor installation, made up of CRCA sheet steel of thickness not less than 2 mm with a weather proof canopy of top, double door construction, IP 54 protection, anti corrosive chemical resistant paint with, automatic dawn and dusk with astronomical controller for street light outgoing, , complete with Aluminum bus bars, inter-connection with solid/ stranded copper conductor wires/ copper strips, glands neutral links, etc., and mounted with following switch gears, etc., complete as required with detailed specifications: , energy saver for automatic switching ON/OFF as per pre-sets time cycle, digital multifunctional meter with RS485 port and suitable CT etc., including concrete pedestal and associated civil works.	Nos	2					
	Incoming							

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	1 Set Three Phase, 4 wire Energy Meter along with1 No. 125 Amp Four pole MCCB, 25 KA breaking capacity with heavy duty solid neutral link with thermal release having O/L and short circuit protection along with 3 Nos.multifunctional digital Astronomical switches to control the road lighting Luminaires per phase basis with easy programming with PC,automatic ON and OFF time as per the uploaded programming, back up can be downloaded through data key, sealable cover even with inserted data key etc. as per approved make complete as required with detailed specifications.							
	Bus Bar							
	1 set. of four Nos 125 Amps Aluminum Bus Bars of size 25mm x 5 mm shall be insulated by heat shrinkable sleeves & clip on shroud for joints							
	Outgoings							
	32 amp TPN MCCB 16 KA -- 6 nos							
	32 amp TPN contactor 16 KA -- 6 nos							
	63 amp TPN MCCB -- 6 nos							
	Suitable A.P.F.C system compartment with contactors, relays and M.C.B's etc. as required be made as integral part of Feeder Piller.9 KVAR 8 stage APFC controller for power factor correction, with 2 KVAR - 2 no. , 1 KVAR - 5 no, capacitor with capacitor rating contactor, and adequate plate to terminate suitable cable as incomer and suitable cable as outgoing. fixed type power factor capacitor							
2	Street light (pole free supply by MWCJ)							
I	Twin arm							
a	Erection, Testing and commissioning Tapered Street Light Pole made of 4mm thick SS400, taper 1000:11.5,finish GV & PC, 9 meter to 11 meter height with brackets, welded with base plate of approximate size 400mmx400mmx20mm thick, control box, supply of suitable SPN MCB including erection of Pole above Ground Level on the existing RCC foundation (RCC foundation is payable separately as per item rate) complete in all respects as per drawings and entire satisfaction of Electrical Engineer-in-charge. (Pole Free Supply by MWCJ)	Nos	67					
II	Single arm							
a	Erection, Testing and commissioning Tapered Street Light Pole made of 4mm thick SS400, taper 1000:11.5,finish GV & PC, 9 meter to 11 meter height with brackets, welded with base plate of approximate size 400mmx400mmx20mm thick, control box, supply of suitable SPN MCB including erection of Pole above Ground Level on the existing RCC foundation (RCC foundation is payable separately as per item rate) complete in all respects as per drawings and entire satisfaction of Electrical Engineer-in-charge.	Nos	90					
3	<b>Pole foundation (Either a/b) to be executed.</b>							
a	Pole foundation (Cast-in-Situ) as per approved tender drawing including but not limited to excavation, PCC,RCC, 2 nos PVC sleeves, foundation bolts/fasteners refilling etc. all inclusive including excavation, shuttering, fixing template plate and refilling etc. as required as per approved foundation drawing	Nos	157					
b	Providing and fixing, Pre cast pole foundation as per approved tender drawing including but not limited to excavation, PCC, foundation bolts/fasteners refilling etc. all inclusive including excavation and refilling etc. as required as per approved foundation drawing	Nos	157					
4	Street light fitting - Conventional							

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S.No.	Description	Unit	Qty.	Basic Material Rate exluding Taxes	Basic Labour Rate (inclusive of Labour, cess, legal, statutory charges and all other charges except Taxes)	Total Rate	Amount	Remarks (Taxes on Material to be written Item wise)
a	Erection, Installation, testing & commissioning of external 180 watt light fixtures complete as required with all accessories including Wiring and connection with 3x2.5sq.mm. PVC insulated copper stranded conductor (P+N+PE) double sheathed wire from Control Box to Luminaries including terminations complete as required as per specifications of 180 watt ( luminaire free supply)	Nos	134					
c	Installation, testing & commissioning of external 72 watt light fixtures complete as required with all accessories including Wiring and connection with 3x2.5sq.mm. PVC insulated copper stranded conductor (P+N+PE) double sheathed wire from Control Box to Luminaries including terminations complete as required as per specifications of 72 watt ( luminaire free supply)	Nos	90					
5	LV cable							
	Laying, Testing and Commissioning of under ground cable one meter below ground level covered with river sand ( 100mmbelow+ 200mm above) and first class brick ( across width single brick) for mechanical protection to the cable, including necessary straight through joint connections ( up to 25 sq mm), digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE (E) insulated ISI marked and of approved make Aluminum conductor armoured cables suitable for working voltage up to 1100 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(cable free supply MWJ)							
a	4 x 6 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	1640					
b	4 x 10 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	2835					
c	4 x 25 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	1675					
d	3.5 x 50 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	525					
e	3.5 x 70 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	2285					
f	3½ x 185 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	915					
6	LV cable end termination							
	Supplying and making end termination with brass compression gland and aluminum lugs for following sizes of armoured XLPE insulated heavy duty aluminum conductor armoured cable of 1.1 KV grade as required.							
a	4 x 6 Sq.mm. AYFY, XLPE, Al, UG cable	Set	108					
b	4 x 10 Sq.mm. AYFY, XLPE, Al, UG cable	Set	189					
c	4x25 sq. mm	Set	112					
c	3.5x50 sq. mm	Set	2					
d	3.5x70 sq. mm	Set	8					
e	3.5x185 sq. mm	Set	2					
7	Straight through joint							
	Supplying and making straight through joint with heat shrink type including lugs and other jointing materials, for following size of 3.5 Core, XLPE aluminum conductor cable of 1100 V grade as required							
a	3.5C X 70 sq. mm	Set	7					
b	3.5C X 50 sq. mm	Set	2					
8	3.5C X 185 sq. mm	Set	7					
a	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.	Each	132					
9	Earthing							
a	Earthing with G.I. pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	4					

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b	Supplying and laying 25 mm X 6 mm G.I strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Mtr	200					
c	Supply, Installation, Testing and Commissioning of Earth pits for pipe Earthing with G.I earth Pipe 4.5mtr. Longx40mm dia. including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. including salt and charcoal (details as specified in the drawing )as per IS: 3043, complete as required as per Specification and Drawing.	set	54					
d	Providing & laying earth connection from earth electrode with 4.0 mm dia G.I. wire	Mtrs	5338					
<b>Total -C-Street Light</b>								
<b>Grand Total (A+B+C)</b>								

**Note:-**

- 1.Basic Rate should be inclusive of cess, all charges except taxes which shall be extra as applicable.
- 2.Service Tax shall be payable extra as applicable post GST implementation.
- 3.Contractor should submit valid reg. copy conforming to GST as applicable.
- 4.Free Issue material can be taken into contractor scope , only in the case contractor agrees to get the prices negotiated by MWCJ and no profit is charged for the same by the contractor.